

Name _____

Ch 3 Study Guide AE

Who was the Greek philosopher who coined the term 'atom'?

What are the two laws John Dalton developed his atomic theory off of?

What are the five points of Dalton's atomic theory?

Which points of Dalton's atomic theory are incorrect by today's standards? **Explain why.**

Explain how electrons were discovered using a cathode ray tube. Who was the person who discovered them?

What was done in Rutherford's gold foil experiment?

What were Rutherford's conclusions about the atom and its structure?



What are the three parts of the atom? Where in the atom are they found? What are the charges and masses of each?

Complete the table below:

Element	Atomic Number	Mass Number	Atomic Mass	Number of Protons	Number of Neutrons	Number of Electrons
Fluorine (F)						
Palladium (Pd)						
Ba ²⁺						

Define the term isotope.

The chlorine isotopes are listed below, what is the average atomic mass of chlorine?

Isotope	Atomic Mass (amu)	% Abundance
Chlorine-35	34.97	75.53
Chlorine-37	36.97	24.47

How many atoms are in 1 mole of a substance?

Complete the calculations below:

$$1.40 \text{ mol V} = \text{___?___} \text{ atoms V}$$

$$2.1 \times 10^{23} \text{ atoms Cd} = \text{___?___} \text{ mol Cd}$$

$$52 \text{ g Ga} = \text{___?___} \text{ mol Ga}$$

$$0.75 \text{ mol S} = \text{___?___} \text{ mol S}$$

$$5.0 \times 10^{24} \text{ atoms Na} = \text{___?___} \text{ g Na}$$

$$55 \text{ g Mn} = \text{___?___} \text{ atoms Mn}$$